

***The Evolution of Conflict Through 2020:
Demands on Personnel, Machines, and
Missions***

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1 Introduction

It is generally agreed that war in the 21st Century will be different from previous conflicts. To preface my comments, I admit to certain biases that influence my thinking. These have been detailed in *Winning The War*. (1) First, the threat in the global war on terror (GWOT) needs more specificity. The public resolve to take the steps necessary to win GWOT is in doubt. Thus, we are destined to arrhythmic oscillations of armed interventions against a plethora of amorphous opponents. (2) (See Appendix A) These confrontations will certainly last through 2020 and severely tax our resources. At any given time a catastrophic terrorist attack could punctuate history. While there would be an emotional outcry demanding immediate, and possibly irrational response, success in countering the adversaries depends on comprehensive contingency planning for events that boggle the imagination.

Second, I opine that we have actually entered the next global confrontation, and it is ideologically based. Called World War X, it is broader and more complex than GWOT. The consequences of losing are far greater and could drastically alter our way of life. The primary determinant in whether or not we emerge victorious will be the formal recognition of the nature of this conflict and realization that we are already engaged. While military forces will play a substantial role in this conflict, the outcome of WW X will be determined by other factors including economic strength, sustained public will, and changes in the energy paradigm.

Several factors weigh heavily in this equation. I support Samuel Huntington’s notion that this is a *clash of civilizations*. (3) A world defined as having two parts, Dar-al-Islam and Dar-al-Harb (House of War) leaves little room for compromise. (4) In my view, the two most significant factors that will influence future conflict will be the population growth rate of the Islamic world, and their resistance to secular education in many countries. (5) Of course, there are many other issues that will threaten our national interests. There will

be geographic areas of instability on most continents that will continue to demand preparation for, or actual armed intervention by, US forces. These have been described adequately in the NIC 2020 documents (6)

2 Impact of Incompatible Belief and Value Systems

We do not understand the threat. Worse, we don't know what we don't know. At issue are basic incompatibilities in beliefs and values. These discords are so fundamental as to overshadow all other issues. It is with arrogance, hubris, and at great peril that we ignore the foundations of the conflict. We must abandon the notion that all humans think alike and share common values. Among the core concepts that may be at odds are the following:

- All people want the same things (life, liberty, and happiness)
- Life, especially human life, has extraordinary value
- Females and males should have equal rights and opportunities
- Individuals are solely responsible for their actions
- The value placed on *honor* and *shame*
- Opposing belief systems can be accommodated within heterogeneous societies
- Given a choice, people will choose to avoid pain and suffering
- Democracy is the best form of governance and should be provided to all
- Education is good, highly desirable, and is key to solution of most problems
- Progress, measured in quantifiable increments, yields a high probability of success
- Boundaries (geographic/social/economic/other) are absolute or sacrosanct

The nation-state as the primary building block of international relations is a failing concept. However, at 2020 it will still be the dominant form of macro-organizational interactions in the world. Facilitated by information technology, emerging will be large-scale, philosophically based institutions that have the capacity to direct or influence the actions of far-reaching population groups. In some cases these will be virtual organizations connected only by information provided by sources whose identity may, or may not, be known. (7)

The impact of societal structures based on beliefs is already being observed. The most noticeable current example is *jihad* as called for by Osama bin Laden, and other fundamentalist Muslim clerics. Fighters, considering themselves to be mujahideen, move from one zone of conflict to another. Their objective remains constant; defeat of Western ideology. Conversely, operations Enduring Freedom and Iraqi Freedom, executed by US led coalitions, and were fought to remove regimes of countries that were believed to support terrorists and thereby threatened US security. The coalition battlespace remains constrained by country borders that were externally imposed upon local residents.

In the near future geographically base notions for bounding conflict will be replaced by concepts in which people, supporting their belief system, wage war regardless of

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cartographer's limitations. (8) Understanding this shift, and being able to define the conflict properly, is crucial in determining the outcome. (9)

Willingness to accept and inflict casualties will remain extremely sensitive issues. We will accept casualty rates proportional to the perceived threat. However, this is a sliding scale. The continuation of terrorist attacks within US borders will increase our tolerance for both accepting and inflicting casualties. Serious attacks, such as have been forecast by terrorist organizations, would dramatically reduce the American public's concern about collateral casualties. The danger is that devastating retaliation may be acceptable in the short term but have negative consequences in the long term. These are serious issues that demand contemplation before the events occur. Conversely, we must guard against attitudes that could make leaders unwilling to commit force for fear that US casualties are not acceptable to their voting constituents.

The foregoing topics deserve considerable explanation and space does not allow that luxury. To protect our national interests through 2020 and beyond, we must eschew our cerebralcentric worldview and focus on preparing our security infrastructure for the complex tasks they will face.

3 Types of Future Wars

Three types of conflicts are likely between now and 2020. Some of these wars, especially if initiated by foreign powers, could appear quite traditional. When and how America intervenes could greatly influence the nature of the conflict.

4 Overt War

The primary focus of senior political and military leadership will be on overt war such as our invasions of Afghanistan and Iraq. Several traditional adversaries will remain of concern. A nuclear capable North Korea will be at the top of the list. The long-term intentions of China are not sufficiently clear and they could pose a threat to US interests in many areas. Also to be watched is the potential for direct confrontation between India and Pakistan. While their relations wax and wane, both are declared nuclear states with an enduring history of conflict. These, and several other well-armed countries could present situations for which introduction of large scale US forces could be required. These possibilities will guide both future force structure and technological development for weapons systems.

However, lessons learned from recent conflicts will impact significantly on size and composition of the force, military doctrine, and the political decisions to go to war. Operations Enduring Freedom and Iraqi Freedom were conducted quite differently yet had common characteristics. In both, the vast superiority of American military weapons technology quickly decided the outcome of the initial battles. The apparent victories were followed by extended periods of instability that require commitment of substantial

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numbers of troops and other resources. The need for invincible armored forces backed by devastating air power quickly gave way to small unit operations and a complex juxtaposition of force protection, elimination of dangerous insurgents, and civil affairs-type interactions. The expense of the stability operations was far greater than initially anticipated, as was resistance to coalition occupation and American influence over the new governments.

5 Covert War

Covert conflicts were pervasive throughout the Cold War. Among the best known was the war fought by the mujahideen in Afghanistan against the Soviets during the 1980s. For years the CIA provided support from Pakistan. Emphasis was placed on acquisition of foreign materiel that could not be traced directly to the US. Exceptions were made such as introduction of Stinger anti-aircraft missiles. That decision is credited by many observers as being the turning point in the war and led to the Soviets leaving the country. (10)(11)(12)(13)

The CIA, sometimes supported by special operations forces (SOF), engaged in several covert operations around the world. Missions in Tibet, El Salvador, Nicaragua, and Congo are a few examples that remain relatively unknown to most Americans. Later, the war on drugs saw introduction of other agencies such as the Drug Enforcement Agency (DEA) into active participation in hazardous missions. Together interagency counternarcotics operations were conducted in Colombia, Peru, Thailand, and other drug producing or transit regions of the world. The continuation of GWOT will expand covert operations to more of the globe, particularly to those nations that harbor and support terrorist.

6 Outsourced War

Outsourced wars have begun in earnest. There have always been mercenaries, but future conflicts will take the concept to new levels. During the Cold War proxies fought as client states of the East and West. The US frequently provided assistance to forces opposing those supported by the Soviets in order to strain their military resources. However, proxy wars are undergoing a metamorphosis and will emerge in the form of nongovernmental outsourced wars. Some will have state sponsorship, while others will not. This trend already can be observed in the contracting of services traditionally done by military forces in both Iraq and Afghanistan. Examples include the Americans that provide protection for President Karzai, advisors to foreign senior military officials, and private guards for building and convoy security. (14)(15) Many of these contractors are heavily armed and have used deadly force on several occasions. Use of contractors in sensitive situations, including interrogation of prisoners at Abu Ghraib prison near Baghdad, has raised serious issues regarding both legal and ethical responsibilities. (16)

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Large transnational companies routinely engage contracted security. Many of these contractors look like executive class mercenaries, but with a professional imprimatur. They are often subsidiaries of well established and respected companies. In corporate boardrooms around the world, the image of the rogue soldier of fortune is being transformed into that of elite master craftsmen. The impact will be profound for the US military.

The corollary to this trend is seen in protection afforded within the United States where the ratio of private security guards to sworn law enforcement officers is 5:1 and increasing. Some of these private organizations provide security for the most sensitive government sites and are prepared to engage protective services that equate to military operations. The internationalization of private security in the US has happened. As an example, Wackenhut, formerly an American company, is now a subsidiary of Group 4 Falck of Copenhagen, Demark.

Non-state outsource wars are in their infancy, but will most certainly expand. The legal limits have not been set. Controversy will abound as perceived violations of established norms of warfare occur.

Outsourcing of military services has been embraced by the US as a means to minimize exposure of troops and acquire services currently not available due to personnel resource constraints. Undoubtedly, this will lead to expansion of such techniques by other countries and larger international organizations. The issue of preemptive operations by contract organizations, key to counterterrorism, is totally unbounded. The institutional and ethical boundaries have not been tested as to what operations are appropriate. The question is whether or not Pandora's Box has opened?

7 Operational Considerations

America's supremacy in traditional military operations will remain unchallenged through 2020. Defense budgets and force structure will focus on our ability to deter or defeat conventional forces with overmatching military capabilities including weaponry. Concurrently, there will be comprehensive preparation for unconventional engagements, post conflict, and stability operations.

The doctrine necessary for defeating a conventional adversary on land, sea, or air is well developed. Success has been repeatedly demonstrated. Once in theater, US forces can overwhelm any standing adversary, establish and maintain air superiority, control sea lanes or littoral waters, and seize geographic territory. Strategic lift capability is, and will remain through 2020, the critical capability for force projection for conventional warfare.

Because of the success of US forces, potential adversaries now concentrate on asymmetric warfare. Strategically, our adversaries have focused on undermining the resolve of Americans. Since Vietnam it has been learned that the US does not respond

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well to wars of attrition. It is assumed by some potential enemies that the US is unwilling to accept casualties, especially if they can be dispersed over a long period of time.

The events of 9/11 conclusively demonstrated that the US mainland was vulnerable to terrorist attacks. Concepts of defense, geared toward fighting external wars, were severely tested and found failing. Laws designed to protect civil liberties were subordinated as the Congress passed The Patriot Acts. Efforts for protection of territorial integrity included the creation of the Department of Homeland Security. The Defense Department counterpart was the formation of Northern Command.

The effectiveness of these moves remains unclear. However, they will bring about a dramatic shift in our internal defensive posture. There will be unprecedented coordination between local, state, and federal authorities. This includes elements of the DOD that have previously been externally oriented. Renewed consideration must be given continuity of government activities making the system more dispersed and agile.

Interagency relationships will evolve and strengthen. A delicate balance must be maintained between traditional openness of a democratic society and a *Fortress America* mentality. While border security must be enhanced, the Defense Department must rigorously reject the oft-heard plea that military units should be moved to our borders. We simply do not have adequate forces and static defenses inevitably breakdown. Further, there are laws, such as *Posse Comitatus*, that must be changed to facilitate defensive operations in peacetime.

The ability to conduct traditional combat operations is a given. However, the concept of full-spectrum warfare will be expanded to well beyond current limits and US Special Operations Command (USSOCOM) will assume a far more prevalent role in the Defense establishment. Much of this will be accomplished by SOF elements not as well known as Special Forces, SEALs, Rangers, or Air Commandos.

8 Direct Action

Conventional units will develop enhanced capabilities for direct action missions such as raids. This will be essential for preemptive strikes to neutralize terrorist elements. Combat in urban areas is likely to dominate future conflict. Traditionally, urban battles have proven to be extremely difficult, especially when the enemy employs human shields. That will not change. Volumes have already been written on this topic so I will only mention that it is an extremely important topic. Both conventional and SOF units must train rigorously for it. Technologies are available that could provide us a decided advantage in urban combat. Unfortunately, they are not being pursued vigorously enough.

Special operations forces spend considerable time and resources training for access into denied areas. Most of them maintain airborne status. Their aircraft are designed especially for penetration missions. Some units participate in underwater and HALO parachute infiltration operations. These skills provide access into very difficult areas.

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They also enhance esprit de corps that is much coveted in elite units. These capabilities should remain available. However, in many future operations, SOF troops will arrive at their destinations via unpretentious civilian transportation. While a few units and intelligence agencies currently employ such infiltration techniques, there will be a need to train many more people on the ability to blend into civilian surroundings, assemble at their operational objective, execute their mission, and exfiltrate without being identified.

9 Foreign Internal Defense

International relations have been a hallmark of USSOCOM activities as they annually deployed troops to more than 150 countries. For many years Special Forces soldiers have received extensive foreign area training and operated in their assigned countries. One of their missions that will take on new importance will be foreign internal defense (FID). Previous FID operations focused on training of indigenous soldiers with the intent of fostering regional stability. The SF personnel were also noted for providing medical assistance in remote areas not routinely serviced by doctors. As a result of the close interaction with the local population, over time personal relationships are built between the Special Forces troops and the people they serve.

Future FID missions will build on the established base. To accomplish that, intense attention should be paid to personnel assignments to insure the same soldiers interact with the same indigenous people on a repetitive basis. Rather than spending months with foreign personnel, these interpersonal interactions should continue over several decades.

These long-term personal relationships would provide quality intelligence that is not available via any other means. It may be feasible to identify potential coups, increasing societal and inter-group tensions, attempts of terrorist organizations to subvert the population, and pressure from criminal/drug cartels. These missions would provide a basis for policy makers to determine appropriate courses of action and the ability for early intervention while incipient problems are more manageable.

Repeatedly we have injected operatives into difficult, often hostile situations in which they had to improvise and spend valuable time building trust before they could be effective. In the past some of these hastily formed alliances yielded unintended consequences. As an example, in Afghanistan warlords sometimes attempted to use American firepower to settle old scores by stating that the opposition was supporting the Taliban. The bottom line is that people trust people they know, and know well. It takes a long time to gain a meaningful understanding of these complex situations. Despite best efforts, some intertribal situations are beyond Western comprehension.

10 Counterproliferation

Counterproliferation (CP) missions will take on increased importance. Training for such missions is very demanding and may call for technical sophistication that is well beyond

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the capabilities of military units. Interagency cooperation will be essential with SOF units working closely with the Intelligence Community and Department of Energy personnel. The complexity of the target set will determine the composition the task force. Interagency matrix organizations and common training will become the centerpiece of these operations.

11 Counterterrorism

If laws and boundaries remain as currently configured, the three primary organizations will be CIA, FBI, and SOF elements from the DoD. As with CP missions, the task force assigned the mission may be augmented with persons possessing highly specialized skills from other organizations.

Counterterrorism (CT) operations will demand increased planning and attention. The amount of attention placed on this area will be directly proportional to the threat posed by terrorists. Ironically, attention will be inversely proportional to our success in preemptive operations that disrupt terrorist activities before they reach fruition. These operations must not be reflexive, post facto spikes. We must diligently guard against reduction in support of CT operations simply because attacks have decreased. CT units cannot be a victim of their success.

As urbanization intensifies, concern for collateral casualties will remain. Therefore, CT operations generally will be surgical by nature. For the next decade these missions will be embroiled in legal and ethical controversy. Troops, however, must be trained to conduct a wide range of CT operations including identifying, capturing and exfiltrating individuals from hostile environments, to the targeting for removal of selected individuals. Regicide is a viable option that minimizes collateral casualties. The execution of such missions will rest on political decisions and legal interpretations, but the capability should be available.

Counterterrorist operations conducted in major metropolitan areas of the US will likely integrate local law enforcement SWAT personnel. Well trained SWAT teams often draw from prior military personnel. These teams may be more current in their skills than military or federal counterparts due to the frequency with which they are deployed on dynamic entry missions. As an example, the Los Angeles Sheriff's Department executes an average of 200 high-risk arrest warrants each year. (17) Cooperative training with local SWAT teams has been conducted quietly for many years. Interagency training will probably increase and local law enforcement agencies may become involved in planning and execution of missions.

The high probability of terrorist attacks in the US is acknowledged. Local law enforcement and fire rescue personnel will be the first responders in most cases and the true nature of the incident may not be determined immediately. Initial planning for interagency response has begun in major metropolitan areas around the country. More must be done to integrate training between local and federal agencies and overcome the

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endemic issues of interoperability. The independent procurement processes of local agencies must be augmented to insure smooth transition of command and control once an incident is determined to be a terrorist strike. Planning and rehearsal for these eventualities are imperative.

12 Eyes on Target

In Afghanistan and Iraq, the ability of SOF elements to precisely designate targets proved to be invaluable. However, this capability needs to be improved. During December 2003, while I was in Afghanistan, there were two horrific incidents. On 5 December an A-10 was dispatched to attack the building housing a high value target at the village of Petaw. The attack with 20-mm canon killed 9 children playing in the yard. It was later learned that the targeted individual had left the area two days before the mission took place. Five days later, in a second incident at Gardez, six more children died in a bombing raid. Both attacks made major news in the country and were picked up internationally. Had spotters on the ground been present they could have determined the situation in realtime and prevented the very bad publicity that followed the killing of innocent people. (18)

The use of precision-guided munition will increase. The accuracy of these systems will improve. Targeting will remain the critical factor in determining success or failure of these missions. Having eyes on target, either by SOF elements on the ground, or by enhanced sensor systems, must be a core mission.

13 Psychological Operations and Civil Affairs

Two major elements of the SOF community have remained in relative obscurity but will play increasingly important roles. These are the active duty Psychological Operations (Psy Ops) battalions and Civil Affairs (CA) units predominantly from the reserve components. At present the decision has been made to keep these elements within USSOCOM.

It is a serious mistake to have most CA units in the reserve components. This anachronism stems from prior planning for major wars. The thinking was that after cessation of hostilities, technical people with demonstrated organizational skills would be sent to rebuild the country. Planners did not envision the current world, in which CA units are deployed with alarming frequency. Unseen was the need to be able to plan for, and develop basic infrastructures in countries such, as Afghanistan, where none previously existed. Through 2020 it is predictable that CA units will be continuously involved and that the role will expand. Thus USSOCOM has been given authority to form a second active duty CA battalion.

Operational Psy Ops is essential across the spectrum of conflict. However, in GWOT it is an essential requirement. These capabilities must be expanded to meet future needs. At

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the core there must be a firm understanding of societies that are quite different from ours. Although this principle has been recognized, we have failed to fully implement it.

There is a critical shortfall in language skills that needs to be rectified. Computerized translation systems will help but lack an understanding of indigenous context. As with Special Forces units, recurring assignments in areas of potential operations should be implemented as much as practical for Psy Ops personnel.

It is recognized that Psy Ops responsibilities have been split along strategic versus operational capabilities. Needed is a national policy that is embraced by all agencies and does not vacillate on political whims.

14 Logistics

Logistics has probably been the greatest advantage that American forces have had. Support for major operations requires Herculean efforts. The ability to move troops and logistical support for all forces must be improved. Shortening supply lines by adjusting the locations of prepositioned materiel will occur, but not without considerable risk. Transiency of coalitions will continue to be problematic. The necessity to negotiate basing, overflight, and other rights for each operation creates situations not favorable to US operations.

15 Impact on Personnel

The size of the current active duty force is too small for the missions assigned. Reliance on reserve components for repetitive call-ups will have serious adverse consequences. The policies of the last decade in which reserve forces were activated to meet day-to-day requirements of the military were poorly thought out and are having a chilling effect. Many people would be willing to serve if there were a direct armed threat to America but do not want to participate as an extension of routine foreign policy. The much hyped *peace dividend* was too quickly spent, and those who bet on decades of quiescence, lost. Therefore, either the active force must be increased or commitments decreased.

When in Kabul I talked to many National Guard soldiers assigned there. While they were perfectly willing to defend the nation if necessary, the common denominator was, "This is not what I signed up for." Some of them were on their third activation in a few years. Many observers, including me, believe that the US is headed for a severe recruiting and retention problem for the reserve components.

Of all elements that will face retention problems, SOF may prove to be unique. The introduction of epidemic outsourcing of security operations will have unanticipated consequences for the US military in general and SOF in particular. Never before have SOF skills been in such high demand by both the military and civilian enterprises. Their well publicized success in Operation Enduring Freedom brought these units to the public

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consciousness. They also gained favor with senior officials of both the legislative and executive branches of government. Of course, the emphasis was on the ability of a few skilled operators to direct precision munitions and destroy enemy targets. The success of a relatively small force, including CIA operatives, in coordinating attacks that led to the rapid defeat of the Taliban made war look easy. While support of legislators is good for gaining funding, few on Capitol Hill really understand SOF capabilities and limitations. There have been calls for rapid expansion of SOF units. This belies the effort necessary to create new SOF units. Elite units require extensive training and can be expensive. Most importantly, the quality of the people must be maintained and this militates against rapid proliferation.

Further, competition for highly motivated people with the ability to acquire SOF skills will be intense. Previously mentioned were high paying civilian contractor opportunities. These personnel demands will increase. But the competition will also be with other government agencies at federal, state, and local levels. Skills can be taught. Motivation comes from within. The pool of suitable applicants is limited.

Therefore, SOF will have to design innovative strategies to recruit and retain their people. To accomplish this they should explore changes to the military personnel system. This may include discontinuous active duty, but with mechanism that allow rapid reintegration. It may be necessary to establish interagency transfers on a much wider scale than previously imagined.

During the race to downsize the Army, an unfortunate decision was made to eliminate the Foreign Area Officer (FAO) program. The FAOs had proven to be extremely effective in providing accurate information about their assigned countries. The program should be reinstated. Additionally, more foreign soldiers and their families should be brought to the US for training.

For the FID missions mentioned, personnel must have repeated tours to the same area. Then while on other assignments, they should periodically return to their foreign site for the sole purpose of maintaining personal relationships. There is no reason that these relationships should not continue beyond retirement, or release from active duty, and still be sponsored by the military.

16 Implications for Intelligence

Actionable intelligence is essential. In recent conflicts commanders at all levels have lamented the shortfalls of actionable intelligence. Operation Iraqi Freedom was initiated prematurely when it was reported that Saddam Hussein would be located at Dora Farms in Baghdad. A phone call from an agent in the area began the process. Because this was the beginning of the conflict the decision rested with President Bush. The reaction time was too long, and if Saddam ever was there, he left before the target could be hit.

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By 2020 we should be able reduce the time from which a target is detected until it is hit to under ten minutes. Currently, for DoD elements, target identification and release must cycle back to the US for approval. This is simply too slow. The kill chain, (Find, Fix, Track, Target, Engage, and Assess) must be reduced. In addition to the intelligence functioning faster, field units need pre-approved authority to engage.

Obtaining human intelligence from tribal based societies will remain difficult. However, it is not impossible as was demonstrated by an operative identified as “Tim” in Bob Woodward’s *Plan of Attack*. (19) Tim was able to solicit cooperative agents inside Saddam’s inner circle who provided vital information. Despite advances in technology, bribery or coercion will probably continue to be most effective methods developing HUMINT sources necessary for determining the state of mind and intent of the enemy’s leadership.

17 Superorganism

While much emphasis is placed on identifying terrorist command and control this may not be as useful as we think. Many of these groups are linked only by philosophy and utility. Their leaders are often fiercely independent but still need external support. Too frequently we assume that since we have been successful in creating highly responsive centralized command, control, and communications systems, other organizations must follow suit.

For several years I have recommended that the concept of the superorganism be explored as a model for command and control that facilitates dispersed, effective action but does not rely on centralized communication. The notion comes from simple organisms that do not have the ability to apply complex thought. But, under certain conditions, these organisms act as if the whole is greater than the sum of the parts. An example is slime mold, which is unicellular and lives in moist climates. When periodically faced by drought, slime mold cells come together. Many of these cells commit suicide by allowing other slime mold cells to stack on top of them forming tubes that reach into the air. As they dry out, wind comes along and blows the top cells to new locations. When they land in a moist area the colony is reconstituted. The question is how does each cell determine the actions it should take to support the superorganism? It appears this is from a series of simple decisions that are programmed into each cell. There is no indication of external command and control that informs them of individual responsibilities. (20)

It seems that slime mold cells can detect a threat, make a determination of individual versus collective threat, implement assembly orders, voluntarily commit suicide, or move to a new location and then reconstitute life. Therefore, we must anticipate what human terrorists, with far more complex decision-making capability, can accomplish using similar relative simple instructions. If terrorists use a superorganism command and control paradigm it makes the task of locating them extremely difficult. Each cell must be independently identified and neutralized. The clues for finding these cells would be different from an organization with a centralized system. There is reason to believe that

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many of the terrorists trained in Afghanistan under Osama bin Laden were taught these techniques. They know how to determine a target and have authorization to attack independently.

Conversely, it would be wise to consider a superorganism model for command and control for special circumstances. These include elements operating in denied areas, CT or CP operations requiring rapid action, or even committed conventional forces if faced with severely degraded or destroyed C⁴I systems.

18 Materiel Impact

While the focus of this session is not on weapons systems, there are technology trends and materiel issues that should not be ignored. Between Gulf Wars precision munitions improved dramatically. That trend will continue. From Predator to Hermes unmanned systems are the wave of the future. Robotic devices are already making an appearance on the battlefield. These robots will increase as we search for efforts to minimize exposure of our troops. Miniaturization, to include nanoscale developments, will have significant impact on future conflicts. Command and control, authority to shoot, and de-conflicting battlespace will be key issues for unmanned systems.

Similarly, sensor systems, enabled by advanced computing capability continuously improve the spectrums in which data can be collected. An ethical balancing act will emerge between civilian applications for sensor technologies, and the innate desire of military and intelligence agencies to cloister such capabilities. The reality is that the speed of development precludes safeguarding sensor capabilities for very long. It has been observed that drug cartels and terrorists with large funds available can buy almost anything. Therefore, our troops must be prepared to face advanced sensors.

Materials science is playing a significant role in protecting personnel. Body armor has reduced deaths dramatically. New lightweight armors will allow additional protection to extremities. On the horizon are advances in biotechnology that will allow medical attention to begin at the instant of injuries. Biosensors will be able to assess injuries, begin administration of medicines, and attempt to stop bleeding. Bioscience will provide a range of capabilities from performance enhancement and disease resistance to bio-computers with photosynthetic batteries. Concurrently, there will be endemic concerns about the morality and efficacy of these advances. (21) Of course the potential for misapplication of biotechnology in development of weapons looms large. Weaponization will almost certainly occur.

Space exploration has not received sufficient emphasis by the military. The US military has taken the position that space exploration nearly exclusively will be robotic. It is my view that manned space will proliferate far faster than is being anticipated by military planners. *Winning The War* addresses this topic in detail and recommends that the US take the initiative while we still can, and weaponize space. In May 2004, as this presentation is given, legendary aerospace pioneer, Burt Rutan, is within weeks of

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winning the X-Prize. That ten million dollar prize goes to the first civilian company to launch a manned, three-person, reusable vehicle into space twice in three weeks. (22) Rutan's stated intent is to invigorate private space exploration. He is not alone in his quest. Civilian companies are going to dramatically drive down the cost paradigms associated with space travel. The military must begin to plan for use of force in a manned space environment.

19 Summary

The past fifteen years saw the end of the Cold War, disintegration of the bi-polar world, and dramatic burgeoning of geopolitical instability. Operation Desert Storm demonstrated the undisputed technical superiority of America's arsenal and caused adversaries to look for America's asymmetric vulnerabilities. Peace support and nation building operations met with mixed results. Sometimes, as in Somalia, there were disastrous consequences. Terrorism waxed and became a global concern while the notion of a super empowered individual was born. Containment worked in some areas, yet North Korea became a nuclear power with missiles that can directly threaten the United States mainland.

Western technology continues to improve. Weapons and sensor systems were developed that can eviscerate any conventional adversary. Conquering was proven to be easy. Holding the peace was a different matter. Concurrently, the balance between technology and troop requirements tipped too far.

What falls in the dustbin of history are large static wars between conventional forces. What emerges are protracted conflicts on the margin of acceptability. Terrorism and indirect attacks are the norm. To meet the operational tempo, standing forces must be increased and the personnel system revamped. Interagency cooperation must become seamless and artificial boundaries abolished. Actionable intelligence becomes paramount. The kill chain is reduced from hours to single digit minutes.

Special operations forces will be the surgical tools that shape the battlefields. Some wars they will avert. Some they will mitigate. For still others, they will be the units that pave the way for the sledgehammer that will drive a stake into the heart of our enemies. Then, they will help rebuild.

Our adversaries thrust at the inherent weaknesses of a democratic and open society. Foremost is the battle for public perception, at which we have performed dismally. The core issues are conflicting belief systems. Required is a better understanding of the nature of conflicts we face, the ability to establish the parameters of the war, and the wisdom to understand the strategic implications of use of force. It is at our peril that we continue to define conflict in anachronistic terms.

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Appendix A

The Wrong Model of War

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Casualties mount. Mistakes are compounded. Troops are frustrated. Progress is made. Yet, success eludes us. The reason is quite simple. We have the wrong model of war for the global war on terror in general, and Iraq in particular.

From the beginning, the war on terror was defined improperly. Terror is a tactic used in the conduct of conflict. Most frequently it is a tool employed by weak forces against those with overwhelming capability. It is impossible to wage war against tactics or means. In order to win a war there must be a clearly defined adversary. And, successful conclusion to conflict can only come when that adversary acknowledges defeat.

Terrorism is an emotionally laden term, one that is used to brand repugnant groups or individuals. Domestically the line between criminal activity and terrorism is severely blurred. As an example, Earth First, an environmental group that has repeatedly committed criminal acts, has been denounced as a terrorist organization by news commentators. PETA, an animal rights group, as well as several racial and religious segregationist organizations, and even motorcycle gangs have been painted with the same brush. Some of these people may be criminals but to label them as a terrorist detracts from combating our real enemies. These examples, and others, clearly indicate that an adversary cannot be identified by such an ill-defined term.

The war on terror is prosecuted selectively. The Maoist insurgents in Nepal frequently employ terrorism but we pay no attention to that. Nepal does not have oil, nor does it impact our national security. Various African nations experience intertribal terrorism that threatens their stability. This too is ignored, as Western Africa is not on the current administration's agenda. Closer to home, terrorism is endemic in Colombia and sporadically employed in other South American countries. In response, we provide limited special operations forces, primarily to assist in anemic drug interdiction missions. Little is done to counter terrorism on that continent even though there are clear indications of direct relationships between Islamic terrorist groups in the Middle East and South America.

Since 9/11 there have been two significantly different wars waged, one by America and its allies, and the other by Muslim fundamentalists. Operation Enduring Freedom led to the displacement of al Qaeda training centers, removal of the Taliban, and installation of a new government in Kabul. Through the politically expedient means we bought military assistance from disparate warlords and supported them with high tech weaponry. However, it would be a serious misjudgment to believe that the converted mujahideen were philosophically transformed into proponents of democracy. They were only looking out for their own self-interests, just as they have for centuries.

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Larger numbers of American and British forces engaged in Operation Iraqi Freedom leading to regime change in Iraq. However, even with 135,000 troops remaining on the ground, resistance to coalition occupation continues, and it appears to be intensifying. Actions by the Administration in attempting to rapidly install an Iraqi government sympathetic to their wishes bear similarity to the Vietnamization program when we hastened to get out of that conflict. Astute observers know the proposed solution is inviable. Like Vietnam, we proceed in an inappropriate attempt to eschew responsibility for the consequences of the aftermath.

American officials brand any participant in these conflicts who is not native to the area as a *foreign terrorist*. At issue is the anachronistic concept of geographically defined war. Many countries now in turmoil had their boundaries imposed by Europeans who divided the world up for their own purposes. Their cartographers' total disregard for traditional ethnic groupings and societal affiliations has exacerbated existing grievances and resulted in near constant instability throughout several regions of the world. Yet, we cling tenaciously to the failing nation-state construct and inject our notion of sovereignty to legitimize the conflict.

Conversely, our adversaries are waging jihad, or holy war. Years before the attacks on 11 September, 2001 Osama bin Laden had issued a fatwa against all Americans and extolled Muslims to join him in resisting Western intervention throughout the Middle East. He frequently renews those pleas. Therefore, the perspective of our adversaries is that jihadists are simply moving to the battle, wherever that might be, and irrespective of boundaries with which they never agreed. They view themselves as mujahideen, or holy fighters, and therefore lawful combatants, not *foreigners*.

Progress and success are not the same. Daily there are reports about the progress we are making in Iraq and Afghanistan. The reports sound very similar to "the light at the end of the tunnel" comments so prevalent three decades ago. In Vietnam we constantly made progress, but in the end we lost the war.

The notion that making progress in Afghanistan and Iraq insures success is unsound. For the past few decades the military has adopted American business practices that encourage constant progress reporting. Therefore, in post-combat environments it is natural that they monitor and report the physical changes and quantifiable improvements. From Iraq and Afghanistan they report the number of schools that have been opened, the number of hospitals repaired, the amount of electricity that is generated, the amount of food distributed, and a host of other factors that can be measured conveniently.

The basic assumption by our leaders is that if progress is being made, we will be successful. As we are learning with ever increasing American casualties, this logic is fatally flawed. It is a serious mistake to confuse progress, demonstrated by counting material things, and success. To be successful we must redefine the war so that it clearly identifies a tangible adversary. Only then can everyone understand the objectives and know when they have been achieved.

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